UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,296	02/27/2004	Arun Munje	51085-5 /slb	7366

7380 7590 01/29/2008

SMART & BIGGAR
P.O. BOX 2999, STATION D
900-55 METCALFE STREET
OTTAWA, ON K1P5Y6
CANADA

EXAMINER	
BEAMER, TEMICA M	
ART UNIT	**PAPER NUMBER**
2617	

MAIL DATE	DELIVERY MODE
01/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/787,296	MUNJE	
	Examiner	Art Unit	
	Temica M. Beamer	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/9/2007 (amedment),10/31/07 (RCE)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 12-16, 19-22* is/are rejected.

7)☐ Claim(s) *11,17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-9, 11-15, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silver, U.S. Patent No. 6,560,457 in view of Boudreau et al (Boudreau), U.S. Patent No. 5,369,681.

As to claim 1, Silver discloses: A method of paging a mobile station in a communications system comprising at least two networks (column 1, lines 12-14; column 3, lines 1-5), the method comprising: determining first location information (regions B, A) defining a location of the mobile device in a first network (circuit network; column 8, lines 3841); determining second location information (location information data) defining a location of the mobile device in a second network (packet network; column 8, lines 3841); transmitting a first page on a first network to an area that is an intersection between locations defined by the first location information pertaining to the

first network and the second location information pertaining to a second network (column 7, lines 50-54; column 8, lines 8-17, lines 50-55).

Silver, however, fails to disclose wherein the first location information is determined independently from the second location information and the second location information is determined independently from the first location information.

In a similar field of endeavor, Boudreau discloses a cellular communications system utilizing paging areas. Boudreau further discloses wherein first location information is determined independently from second location information and the second location information is determined independently from the first location information (i.e., first location information is based on the area the mobile was last known to be in communication with the system and the second location information is based on location information found in a look-up table (col. 5, line 56-col. 6, line 10).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Silver with the teachings of Boudreau for the purpose of more accurately determining the location of a mobile station.

As to claim 3, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses: said area comprises each possible paging location consistent with both the first location information and the second location information (column 8, lines 45-49).

As to claim 4, Silver and Boudreau discloses everything as applied in claims 1 and 3 and Silver also discloses: the first location information identifies at least one location in the first network and the second location information identifies at least one

location in the second network, wherein said area comprises an intersection between the at least one location of the first network and the at least one location of the second network (column 7, lines 50-55; Figure 2).

As to claim 5, Silver and Boudreau discloses everything as applied in claims 1 and 3 and Silver also discloses:the first location information identifies a logical area (regions) of the first network and the second location information identifies a logical area of the second network, wherein said area comprises an intersection between the logical area of the first network and the logical area of the second network (column 5, lines 43-47; column 8, lines 45-49).

As to claim 6, Silver and Boudreau discloses everything as applied in claims 1, 3, and 5 and Silver also discloses: wherein each paging location within the first network comprises a cell, and wherein the area comprises only cells of the first network, which intersect with the logical area (region D) of the second network (column 8, lines 45-49; Figure 2).

As to claim 7, Silver and Boudreau discloses everything as applied in claims 1, 3, and 5-6 and Silver also discloses: the logical area of the second network comprises at least one cell of the second network, and wherein the area comprises only cells of the first network which intersect any cell of the logical area of the second network (column 8, lines 45-49; Figure 2).

As to claim 9, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses: wherein the first location information identifies at least one of: a first set of cells within the first network within which a mobile device is expected to be; a

first logical area (regions B) within the first network having a first associated set of cells within which a mobile device is expected to be located (column 8, lines 39-41); and an identifier of a first geographical area within the first network within which a mobile device is expected to be located and wherein the second location information identifies at least one of: a second set of cells within the second network within which a mobile device is expected to be located; a second logical area (region D) within the second network having a second associated set of cells within which a mobile device is expected to be located (column 5, lines 61-62); and an identifier of a second geographical area within the second network within which a mobile device is expected to be located.

As to claim 11, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses:the first network periodically querying the second network for the second location information; the second network periodically providing the first network with the second location information (column 7, lines 58-65); the second network providing the first network with the second location information each time a mobile to be paged crosses a boundary of a logical area of the second network; and the first network prior to transmitting the first page querying the second network for the second location information.

As to claim 12, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses:comparing the first location information with the second location information; generating intersection location information comprising intersection locations defined by the first location information which are also locations defined by the second location information; and defining the area in which to transmit the first page to

comprise paging locations which are defined by the intersection locations (column 8, lines 39-49).

As to claim 13, Silver and Boudreau discloses everything as applied in claims 1 and 11 and Silver also discloses: the first network comparing the first location information with the second location information (column 8, lines 39-49); the first network generating intersection location information comprising only intersection locations defined by the first location information which are locations also defined by the second location information; and the first network defining the area in which to transmit the first page to comprise only paging locations defined by the intersection locations (column 8, lines 50-54).

As to claim 14, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses: wherein said area comprises a geographical area defined by an intersection of the respective known geographical areas of the two networks (column 5, lines 43-46; column 8, lines 45-49).

As to claim 15, Silver and Boudreau discloses everything as applied in claim 1 and Silver also discloses wherein the first network and the second network comprise a pair of networks, the pair selected from a group of pairs consisting of: a) an interconnect network and a dispatch network; b) a dispatch network and a CDMA network; and c) a packet data network and a voice call network (column 2, lines 60-62).

As to claim 19, Silver and Boudreau discloses delivery of telecommunications services and, more particularly, to sharing of information representing the geographic location of a mobile terminal by two networks serving the terminal in substantially the

same geographic area (column 1, lines 10-15), reading on claimed "a communications system comprising at least two networks." Silver also discloses:

As is best shown in FIG. 2, each of MSC's 113A, 113B and 113C, all reading on c/aimed "service controller, " which represent all or a portion of the voice network 110, services its respective region A, B and C through associated BTSs to which each MSC is linked. In the example shown, MSC-112, reading on c/aimed "internetwork overlap determiner exchanger," which functions as the gateway MSC, interfaces directly with SGSN 121, but is not shown. MSC 112 preferably maintains a database, look up table, or other means through which information representing the location of an MT in the data network 120 can be mapped or cross-referenced to a corresponding location within the voice network 110. Such information is preferably stored and accessed from the VLR 115 associated with gateway MSC 112Bo [column 7, lines 44-56]

To facilitate and expedite call setup in the present invention, SGSN 121 provides to MSC 112 information representing the approximate location of an MT to which an incoming call from the voice network 110 is directed, reading on claimed "receiving from a second network of the system second location information of a mobile device within the second network," Such information is provided to the gateway MSC 112 prior to receipt by any MSC of the voice network 110 of a page response from the MT called. Such information is used by the MSC 112 to determine in which of regions A, B and C is approximately located, reading on claimed "processing the second location information with first location information of the mobile device within the first network to generate intersection information. MSC 112 then directs the MSC serving that region to initiate a

service page to the called MT without the need to await a response from the MT initiated by a page from the data network 120, reading on claimed "a service controller for sending a page over a first network of the system" and "the service controller is adapted to send the page to paging locations as a function of the intersection information." This not only avoids the delay associated with the data network page and response from the MT, but also avoids the need to expend resources unnecessarily by directing a global page to determine the location of the called MT. [column 7, lines 57-57; column 8, lines 1-5].

Silver, however, fails to disclose wherein the first location information is determined independently from the second location information and the second location information is determined independently from the first location information.

In a similar field of endeavor, Boudreau discloses a cellular communications system utilizing paging areas. Boudreau further discloses wherein first location information is determined independently from second location information and the second location information is determined independently from the first location information (i.e., first location information is based on the area the mobile was last known to be in communication with the system and the second location information is based on location information found in a look-up table (col. 5, line 56-col. 6, line 10).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Silver with the teachings of Boudreau for the purpose of more accurately determining the location of a mobile station.

As to claim 20, Silver and Boudreau discloses everything as applied in claim 19 and Silver also discloses MSC 112 preferably maintains a database; look up table, or other means through which information representing the location of an MT in the data network 120 can be mapped or cross-referenced to a corresponding location within the voice network 110. Such information is preferably stored and accessed from the VLR 115 associated with gateway MSC 112B (column 7, lines 50-55), reading on claimed "a visited location register for storing the first location information." Silver also discloses following receipt by MSC 113 of the page response, an Unsolicited Response (UNSC)LRES) message, including a Temporary Local Directory Number (TLDN), is sent to the gateway MSC 112 (column 6, lines 49-52), reading on claimed "the service controller is adapted to retrieve the first location information." Silver also discloses page message is forwarded from the SGSN 121 to the BSS 125, a message bearing location information data is transmitted by the packet-switched network SGSN 121 to the Circuit-switched network gateway MSC 113B and such location information represents the approximate location of the MT 130 within the data network 120 (column 8, lines 32-37), reading on claimed "an internetwork area exchanger for receiving the second location information." Silver also discloses MSC 112 preferably maintains a database, look up table, or other means through which information representing the location of an MT in the data network 120 can be mapped or cross-referenced to a corresponding location within the voice network 110 (column 7, lines 50-54), reading on claimed "an area overlap determiner for processing the second location information with the first location information to generate the intersection information, wherein the intersection information

comprises locations defined by the first location information which are locations also defined by the second location information; wherein the paging locationsare defined by the intersection information."

As to claim 21, Silver and Boudreau discloses everything as applied in claims 19-20 and Silver also discloses: The geographic location of components and coverage areas of a circuit-switched network (voice network) 110 and a geographically overlapping packet-switched network (data network) 120. Base Transceiver Stations similar to BTSs 117, 118 and 119 of FIG. 1 are Shown as triangles in FIG. 2 and Base Stations similar to BSSs 123, 124 and 125 associated with the packet-switched network 120 are illustrated as circles. The coverage area and components of the voice network 110 are illustrated in solid lines, whereas the components and coverage area of the data network area 120 is illustrated by broken lines. The geographic area of coverage by the voice network 110 comprises regions A, B and C, serviced by MSCs 113A, 113B and 113C, respectively, providing service similar to the single MSC 113 shown elsewhere in the FIGURES. It will be apparent that MSCs 111,112 and113 provide multiple functions beyond those described in the example of call setup described here. Similarly, the coverage area of the data network 120 is region D and is serviced by SGSN 121. For purposes of example, MTs 130, 131,132, and 133 are shown at different locations within the coverage areas of both the voice network 110 and the data network 120. [column 5, lines 43-65] Reading on claimed "the first location information comprises information pertaining to a first logical area of the first network, and the second location information comprises information pertaining to a second logical area of

the second network."

Silver also discloses MSC 112 preferably maintains a database, look up table, or other means through which information representing the location of an MT in the data network 120 can be mapped or cross-referenced to a corresponding location within the voice network 110 (column 7, lines 50-55), reading on claimed "the area overlap determiner generates the intersection information by determining cells of an intersection area which are located within both the first logical area and the second logical area, and wherein the intersection information defines the cells of the intersection, and wherein the paging locations are co\-extensive with the cells of the intersection." As to claim 22, Silver discloses everything as applied in claim 19 and Silver also discloses following receipt of the location information data, MSC 112 transmits an Inter System Page (ISPAGE) to MSC 113, which is previously determined as servicing the region in which MT 130 is likely to be located (column 8, lines 50-53), reading on claimed "an internetwork area exchanger for transmitting the second location information from the second network to the internetwork overlap determiner exchanger."

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silver and Boudreau as applied to claim 1 above, and further in view of Haumont (U.S. 200410102199 A1).

As to claim 2, Silver and Boudreau discloses everything as applied in claim 1; however, the combination fails to disclose transmitting a second page on the second

network to an area defined by second location information pertaining to the second network and first location information pertaining to the first network. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Haumont.

In an analogous art, Haumont teaches a 3G SGSN is preferably adapted to have a configuration giving the 2G SGSN IP address for each routing area (or in alternative implementations, location area); the 2G SGSN is adapted to receive the paging request 204 and use the information contained therein to send a paging request 208 to the BSC (paragraph 53), reading on claimed "transmitting a second page on the second network to an area defined by second location information pertaining to the second network and first location information pertaining to the first network."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, disclosed by Silver, transmitting a second page on the second network to an area defined by second location information pertaining to the second network and first location information pertaining to the first network, as taught by Haumont, in order to page auser on both radio technologies serving the mobile device.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silver and Boudreau as applied to claims 1, and 5-7 above, and further in view of Belkin et al (U.S. 6,151,501).

As to claim 8, Silver and Boudreau discloses everything as applied in claims 1 and 5-7 above; however, the combination fails to disclose each transmitter for a cell of

the first network is co-located with a transmitter for a corresponding co-extensive cell of the second network, and wherein each transmitter for the cell of the first network and the transmitter for the corresponding co\-extensive cell of the second network share an antenna. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention as taught by Belkin.

In an analogous art, Belkin teaches a method and apparatus for alerting a communication unit of a service request in a communication systems (column 1, lines 7-9). Belkin also teaches base site 114 provides a first communication service to communication unit 118, located in service coverage area 103 of location area 102 (column 3,lines 10-12). Belkin also teaches base site 114 receives service information from communication unit 118 related to a second communication service (column 3, lines 21-22). Belkin also teaches dispatch system controller 120 sends base site 114 a service request message requesting communication unit 118 to participate in a second communication service (column 3, lines 50-52). Belkin also teaches the user of communication unit 118 can then choose whether to continue with the telephone call service or to use the group call service to resPond to the second user (column 3, lines 64-67), reading on claimed '1:or a cell of the first network is co-located with a transmitter for a corresponding co-extensive cell of the second network, and wherein each transmitter for the cell of the first network and the transmitter for the corresponding co-extensive cell of the second network share an antenna."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, disclosed by Silver and Boudreau, for a cell of the

first network is co-located with a transmitter for a corresponding co-extensive cell of the second network, and wherein each transmitter for the cell of the first network and the transmitter for the corresponding co\-extensive cell of the second network share an antenna, as taught by Belkin, to enable a consumer to subscribe to one service provider and buy one device which meets many the subscriber's communication needs.

6. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silver and Boudreau as applied to claim 1 above, and further in view of Krebs et al (U.S. 5,548,631).

As to claim 10, Silver and Boudreau discloses everything as applied in claim 1;however, the combination fails to disclose the first network is an interconnect network, the second network is a dispatch network, and wherein the first location information comprises a location area identifier identifying a location area having a first associated set of cells within the first network within which a mobile device is expected to be located, and the second location information comprises a dispatch area identifier identifying a dispatch location area having a second associated set of cells within which a mobile device is expected to be located. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Krebs.

In an analogous art, Krebs teaches a communication system (100) supports both telephone services (101) and dispatch services (102) (column 2, lines 23-24), reading on claimed "the first network is an interconnect network, the second network is a dispatch network." Krebs also teaches site 1 (107) couples only to the communication

agent processor (104), and site 3 (109) couples only to the dispatch call processor (106); however, site. 2 (108) couples to both processors (104 and 106) and the infrastructure represented by site 2 is shared by both the communication agent processor (104) and the dispatch call processor (106) (column 2, lines 52-59), reading on claimed "the first location information comprises a location area identifier identifying a location area having a first associated set of cells within the first network within which a mobile device is expected to be located, and the second location information comprises a dispatch area identifier identifying a dispatch location area having a second associated set of cells within which a mobile device is expected to be located."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, disclosed by Silver; the first network is an interconnect network, the second network is a dispatch network, and wherein the first location information comprises a location area identifier identifying a location area having a first associated set of cells within the first network within which a mobile device is expected to be located, and the second location information comprises a dispatch area identifier identifying a dispatch location area having a second associated set of cells within which a mobile device is expected to be located, as taught by Krebs, to enable systems offering these different communication services both have substantially equal access to desirable base station locations.

As to claim 16, Silver discloses everything as applied in claim 1; however, Silver fails to disclose the second network is an interconnect network, and the first network is a dispatch network. The Examiner contends this feature was old and well known in the

art at the time of invention as taught by Krebs.

Krebs also teaches, as stated previously, a communication system (100) supports both telephone services (101) and dispatch services (102) (column 2, lines 23-24). Krebs also teaches site 1 (107) couples only to the communication agent processor (104), and site 3 (109) couples 0nly to the dispatch call processor (106); however, site 2 (108) couples to both processors (104 and 106) and the infrastructure represented by site 2 is shared by both the communication agent processor (104) and the dispatch call processor (106) (column 2, lines 52-59), reading on claimed "the second network is an interconnect network, and the first network is a dispatch network."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, disclosed by Silver, the second network is an interconnect network, and the first network is a dispatch network, as taught by Krebs, to enable systems offering these different communication services both have substantially equal access to desirable base station locations.

Allowable Subject Matter

7. Claims 11, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Beamer whose telephone number is (571) 272-7797. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Temica M. Beamer
Primary Examiner
Art Unit 2617

tmb

TEMICA BEAMER
PRIMARY EXAMINER